

Assessing Non-Performing Assets and Their Impact on Bank Profitability: A Comparative Analysis of HDFC Bank and ICICI Bank

Mr. Devarakonda Ramu¹, Mrs. M. Swathi², Dr. Chokkamreddy Prakash³

Student, School of Management Studies, Guru Nanak Institutions Technical Campus, Hyderabad¹

Assistant Professor, School of Management Studies, Guru Nanak Institutions Technical Campus, Hyderabad^{2,3}

Abstract: *Non-Performing Assets (NPAs) significantly affect the stability and profitability of banks by reducing income and increasing provisioning requirements. This study investigates the impact of NPAs on bank performance, with a specific focus on HDFC Bank and ICICI Bank. Utilizing secondary data from 2019 to 2023, the research analyzes key metrics including Gross NPA Ratio, Net NPA Ratio, Provision Ratio, and Problem Asset Ratio. Findings reveal that HDFC Bank maintains superior performance with lower NPAs and more conservative provisioning compared to ICICI Bank. The study highlights the broader economic implications of NPAs and offers recommendations for improving NPA management. This research contributes valuable insights into effective strategies for managing NPAs and enhancing bank profitability.*

Keywords: Non-Performing Assets (NPAs), Bank Profitability, Gross NPA Ratio, Net NPA Ratio, Provision Ratio, Problem Asset Ratio, HDFC Bank, ICICI Bank, Financial Stability, Asset Management.

I. INTRODUCTION

Non-Performing Assets (NPAs) are loans or advances for which the principal or interest payments remain overdue for 90 days or more. NPAs are a critical issue for banks globally as they represent assets that no longer generate income, causing financial strain and affecting the stability and sustainability of financial institutions. This problem is particularly pronounced in developing economies, where NPAs impact economic growth due to factors such as economic fluctuations, poor governance, and inadequate credit appraisal mechanisms.

Importance of NPAs in the Banking Sector

NPAs are a significant indicator of a banking system's health. High NPAs signal inefficiencies in lending processes, poor credit risk management, and potential systemic risks. They erode banks' capital bases, limit lending abilities, and increase borrowing costs. Furthermore, NPAs necessitate higher provisioning, which directly impacts a bank's profitability. Managing NPAs is crucial for maintaining the stability and efficiency of the banking sector, involving the identification of their causes, analysis of their impact on financial health, and implementation of effective mitigation measures.

Understanding Non-Performing Assets (NPAs)

NPAs have garnered significant attention due to their impact on banking stability and profitability. An NPA is defined as a loan or advance with overdue principal or interest payments for 90 days or more. This definition may vary slightly across different countries and regulatory frameworks but serves as a crucial measure of loan portfolio quality and credit risk management. NPAs provide insights into underlying issues within financial institutions, including governance problems and ineffective credit appraisal systems.

Importance of NPAs in Financial Studies

Analyzing NPAs is essential for several reasons:

- **Income Reduction:** NPAs reduce banks' income since no interest is earned on these non-performing loans.

- **Increased Provisioning:** Higher provisioning for NPAs diminishes banks' profitability and capital availability.
- **Economic Indicators:** High NPAs reflect macroeconomic factors like recessions, weak corporate governance, and structural issues within industries. They impact not just individual banks but the entire financial system and economy.

Historical Perspective on NPAs

Historically, NPAs tend to surge during economic downturns. For example, the global financial crisis of 2008 led to a significant rise in NPAs across many banks worldwide. In India, NPAs became a major concern post-2010, primarily due to aggressive lending practices, a slowing economy, and weak credit controls in public sector banks.

Previous Research on NPAs

Research has extensively explored NPAs, focusing on their causes, effects, and management strategies. Key findings include:

- **Macroeconomic Factors:** NPAs often rise due to broader economic conditions such as recessions.
- **Industry-Specific Issues:** Certain sectors are more prone to NPAs due to industry-specific challenges.
- **Credit Appraisal Problems:** Ineffective credit appraisal and monitoring can lead to higher NPAs.
- **Impact on Performance:** High NPAs adversely affect banks' profitability, liquidity, and capital.

Focus of Current Study

Building on previous research, this study aims to further understand the relationship between NPAs and banking profitability. It seeks to quantify the direct financial costs of NPAs and their effects on the banking industry's performance and reputation. The study will also evaluate various policies and practices adopted by banks and regulatory bodies to manage and minimize NPAs, offering recommendations for improving the efficiency of these measures.

The Effect of NPAs on Bank Profitability

NPAs pose a significant threat to bank profitability and overall viability. These assets undermine financial stability and performance:

- **Direct Financial Impacts:** NPAs decrease interest income as loans become uncollectible. Increased provisioning for NPAs further reduces bank income.
- **Indirect Impacts:** NPAs increase the cost of funds as banks may raise deposit interest rates to attract capital. They also reduce lending capacity since capital tied up in NPAs cannot be used for new, potentially profitable loans. High NPA ratios negatively impact credit ratings, leading to higher borrowing costs and lower market value for bank shares.

Broader Economic Implications

NPAs extend beyond individual banks, affecting the broader economy. High NPAs lead to credit crunches as banks restrict lending, which in turn stifles economic growth and creates a negative feedback loop. Reduced economic activity results in more loan defaults and increased NPAs, exacerbating the problem.

Case Studies and Comparative Analysis

This study will examine cases of banks with high and low NPAs to analyze the financial implications and management strategies. By comparing the financial performances and approaches of these banks, the research aims to identify effective practices for managing NPAs and improving profitability.

Significance of Analyzing NPAs

Analyzing NPAs is crucial for understanding their extent, causes, and effects. This analysis is vital for banks, regulatory authorities, policymakers, and other stakeholders interested in maintaining financial stability. Effective management of NPAs ensures the resilience of the banking sector and contributes to overall economic stability.

Importance of Profitability Metrics in Banking

Profitability metrics are essential in assessing bank performance. High NPAs generally lead to reduced profitability, affecting value-added, net profit, and investor confidence. Evaluating the impact of NPAs on profitability helps in understanding the extent of financial loss and the effectiveness of management strategies.

Measures to Reduce NPAs

Addressing NPAs is critical for maintaining banking sector stability. Measures include:

- **Effective Credit Management:** Improving credit appraisal and monitoring processes.
- **Regulatory Oversight:** Implementing robust regulatory frameworks to manage and mitigate NPAs.
- **Proactive Resolution:** Developing strategies for the early identification and resolution of NPAs.

Importance of Regulatory Bodies in Managing NPAs

Regulatory bodies play a crucial role in managing NPAs. They establish standards, ensure compliance, and implement policies to address NPAs. In India, the Reserve Bank of India (RBI) is responsible for overseeing banking regulations and NPAs. Similar agencies exist in other countries, such as the FCA in the UK and the Federal Reserve in the US.

II. REVIEW OF LITERATURE

Chaitra K. S. and Vasu V. (2018) The study compares NPAs between public and private sector banks in India, highlighting that Public Sector Banks (PSBs) face higher NPA rates, with ICICI Bank showing the highest NPA growth among private banks. The research calls for effective measures to address NPAs for sustainable economic development. Vivek Raj Bahadur Singh (2016) Singh's study reveals that NPAs adversely affect bank profitability and liquidity in India. Despite various policies to reduce NPAs, Indian banks, particularly PSBs, continue to struggle with high NPAs compared to foreign banks, indicating a need for more robust measures.

Ahmed Mahdi Abdulkareem (2020) Abdulkareem's analysis indicates that HDFC Bank outperforms ICICI Bank in profitability. HDFC Bank shows higher gross profit ratios and better financial performance, suggesting ICICI Bank should adopt strategies similar to HDFC Bank to improve its profitability.

Ankur Bhushan and Dr. Giriraj Singh Ahirwar (2016) their study emphasizes that NPAs directly impact the profitability and net worth of banks. Higher NPAs suggest poor credit control, and the study advocates using ratio analysis and correlation techniques to manage and mitigate NPAs effectively.

Ahmad & Khan (2019) Ahmad & Khan's research finds that ICICI Bank's bad loan ratio exceeds SBI's, with NPAs concentrated in the service industry for ICICI Bank and government-supported sectors for SBI. The study underscores the need for improved lending practices.

Aggarwal and Malik (2016) this research identifies SBI and ICICI Bank as having the highest NPAs among public and private sector banks, respectively, highlighting a significant problem of NPAs in major Indian banks.

Ahamed and Panwar (2016) Ahamed and Panwar's study shows ICICI Bank and Canara Bank have notable increases in NPAs. The research attributes NPAs to factors like economic recession and inefficient credit management, recommending proactive measures to manage NPAs.

Vikas Sharma (2015) Sharma's study highlights NPAs as a major concern for Indian banks, freezing funds and limiting growth. Despite efforts by the government and banks, NPAs remain higher than global standards, with no clear evidence that private banks manage NPAs better than public banks.

Vikas Sharma (2017) Sharma's research shows disparities among Indian banks in terms of NPAs and profitability. It underscores the need for Public Sector Banks to improve NPA management to enhance financial stability and competitiveness.

Anilkumar Rama and Nirmal (2020) their study reveals HDFC Bank as more efficient than SBI in managing NPAs, with a significantly lower Gross NPA rate. The research recommends SBI focus on improving asset quality to enhance profitability.

Dr. C. Thilakam and R. Senthil Raja Prabha (2020) the study discusses the rise in NPAs and its negative impact on economic growth. It emphasizes the importance of effective NPA management to ensure a healthier banking system that supports economic development.

Pattanaik & Joshi (2020) this research uses the CAMEL approach to analyze the performance of HDFC and ICICI Banks, highlighting HDFC Bank's superior efficiency and asset quality over ICICI Bank.

Esmatullah Mohammadi (2019) Mohammadi's study finds that private banks generally perform better than public banks, but public sector banks have better Return on Asset Ratios. The research sheds light on the operational dynamics of banking sectors in Afghanistan.

Hawaldar et al. (2020) this study on agricultural loans finds no significant impact of penalties on NPAs. It argues that political interventions affect the management of NPAs in agriculture, indicating a need for improved asset management policies.

Selvam and Premnath (2020) their research highlights the severe increase in NPAs during the COVID-19 pandemic, calling for government intervention to address the rising NPAs and their impact on the Indian economy.

Sharma et al., (2019) this study attributes the rise in NPAs to poor credit handling, particularly in agriculture and industry. It advocates for improved governance practices and better loan management to reduce NPAs.

Kumar et al., (2019) their study examines NPAs over different periods, noting fluctuations in NPAs and emphasizing the need for continued efforts to manage and prevent NPAs effectively.

Shiv Kumar and Devenadhan (2019) their analysis of SBI's credit management practices show moderate NPA definitions and effective risk management. They suggest that SBI's approach to managing NPAs is a sign of responsible risk management.

Need for the Study

This study aims to explore and assess HDFC Bank's business strategies, specifically focusing on the impact of Non-Performing Assets (NPAs) on its operations. The research will examine how NPAs are currently managed within the Indian banking sector, with a particular emphasis on comparing HDFC Bank with ICICI Bank to identify which institution bears the highest NPA responsibility. Additionally, this study seeks to provide insights for policymakers regarding the relationship between banks' financial performance, growth, and NPAs. The research will also cover internal factors (such as lending procedures) and external factors (like natural disasters) contributing to NPAs, and will offer recommendations for effective NPA management.

Scope of the Study

The study focuses on NPAs within Indian banks, particularly analyzing the proportion of NPAs relative to the total advances of banks. It involves a comparative analysis of gross NPAs between HDFC Bank and ICICI Bank. The investigation will explore the contributors to NPAs, their impact on the banks, and provide recommendations for reducing and recovering NPAs.

Objectives of the Study

- To assess how NPAs affect bank profitability and identify strategies to reduce NPAs with a focus on HDFC Bank.
- To compare the Gross NPA ratio, Net NPA ratio, Provision ratio, and Problem Asset ratio between HDFC Bank and ICICI Bank.
- To determine which bank, HDFC or ICICI, has a lower NPA ratio.
- To investigate the factors causing NPAs and their effects on banks.

III. RESEARCH METHODOLOGY

Non-Probability Research Approaches

The research adopts exploratory and descriptive quantitative methods, aiming to identify predictors and establish relationships between independent and dependent variables. It is predominantly speculative and descriptive, relying on secondary data sources.

Data Collection

- **Primary Data:** Not utilized in this project. Primary data collection, such as interviews or surveys, was not conducted.
- **Secondary Data:** The research primarily draws on secondary sources, including: Internet, Books, Magazines, Activity reports, Databases and Library catalogues and displays

Tools and Techniques

The study employs various tools and techniques to analyze data and present findings effectively:

- **Mathematical Tools:** Bar charts and pie charts are used to visually represent data, making complex information easily understandable.
- **Technological Tools:** Microsoft Office applications, including MS-Word, and especially Excel, are utilized to manage, analyze, and present data efficiently. Excel's functionalities greatly enhance data analysis and presentation.

IV. DATA ANALYSIS AND INTERPRETATION

1. Gross NPA Ratio:

The Gross NPA ratio measures the proportion of gross NPAs to the bank's total gross performance. Total NPA includes all credit assets categorized as NPAs according to RBI regulations. This ratio should be calculated as a percentage, and the formula for GNP is:

$$\text{Gross NPA Ratio} = \frac{\text{Gross NPA}}{\text{Gross Advances}} \times 100$$

Banks	As on march 31, 2023		
	Gross NPAs	Gross Advances	Gross NPA Ratio
	(1)	(2)	(3)
HDFC Bank	18,019.03	16,00,585.90	1.12
ICICI Bank	31,183.70	10,19,638.31	3.05

Interpretation

HDFC Bank and ICICI Bank shared financial information of their non-performing assets (NPAs) as on March 31, 2023. It had gross NPAs of ₹18,019 for the fiscal ending March 31, the bank said in a filing to the BSE. 03 crore and gross advances as ₹16,00,585. 90 crores, hence the gross NPA ratio is 1. 12%. This can be viewed as a relatively low share of 'bad' and near-to-bad performing loans. ICICI Bank which had gross NPAs of ₹ 31,183 crore. 70 crores and gross advance of 10,19,638. Reference to this total non-performing asset, which stood at Rs 31 crore, means that the gross NPA ratio here was higher at 3. 05%. This of course means that the percentage of Non-Performing Loans is higher in ICICI Bank as compared to HDFC Bank.

2. Net NPA Ratio

NPA percentage is the proportion of NPAs and advances for which provision must be made out of total advances. Provisions to be made in the NPA account. this is the way

$$\text{Net NPA Ratio} = \frac{\text{Gross NPA} - \text{Provision}}{\text{Gross Advances} - \text{Provision}} \times 100$$

$$\text{Gross NPA} - \text{Provision} = \text{Net NPA}$$

$$\text{Gross Advances} - \text{Provision} = \text{Net Advances}$$

Banks	As onmarch31,2023		
	Net NPAs	Net Advances	Net NPARatio
	(1)	(2)	(3)
HDFC Bank	4368.43	1,574,289.63	0.27
ICICI Bank	5,155.07	1,002,448	0.51

Interpretation:

The two banks that would have submitted their financial data on net Non-Performing Assets (NPAs) as of March 31, 2023 are HDFC Bank and ICICI Bank. Gross NPAs of HDFC Bank stood at ₹16,425 crore while the net NPAs were at ₹4,368.43 crore and net advances amount of ₹15,74,289.63 crore. The estimated net NPA ratio using the modified pass rate of Rs 63 crore stood at 0.27%. This means that the ratio of non-performing loans after making provisions is very small, which is desirable in credit crunch. Net NPAs in ICICI Bank's case were ₹5,155.07 crore and net advances of ₹10,02,448 crore, their net NPA ratio is higher than the mean with 0.51%. This can be interpreted as the fact that ICICI Bank has a somewhat higher proportion of substandard and other risky assets as compared to HDFC Bank.

3. Provision Ratio:

Provisions have been made to protect against NPAs and impact the overall profitability of the bank. Ratio is nothing but the ratio of total NPA to gross NPA of the Bank. The way to do this is:

$$\text{ProvisionRatio} = \frac{\text{Total Provision}}{\text{Gross NPAs}} \times 100$$

$$\text{Additional formula: Net NPA} = \text{Gross NPA} - \text{Provision}$$

$$\text{Therefore Provision} = \text{Gross NPA} - \text{Net NPA}$$

Banks	As on march 31, 2023		
	Total provision	Gross NPAs	Provision Ratio (%)
	(1)	(2)	(3)
HDFC Bank	13650.6	18,019.03	76
ICICI Bank	26028.63	31,183.70	83.46

Interpretation:

Until March 31, 2023, both HDFC Bank and ICICI Bank declared their figures of provision against gross NPA. The aggregate of total provisions of HDFC Bank was ₹13,650.1246 crore against gross NPAs of ₹18,019.03 crore. The provision ratio or percentage worked out to be 76%. This implies that HDFC Bank has provided for a 76% of the gross NPAs to cater for any actual losses. ICICI Bank on the same note had a total provision of ₹26,028.63 crore. The implementation of different strategies in core banking solutions like current account management and loan services affected them in various degrees, with ICICI Bank recording less revenue than last year. Rs. 63 crores against gross

NPAs of ₹31,183. 7,000 crores, but enabling the laid down provision of 83.46%. This implies that ICICI Bank is quite conservative when it comes to setting up for any future losses through facultative loans.

4. Problem Asset Ratio:

It is the ratio of total NPAs to the total assets of the bank. The way to do this is:

$$\text{Problem asset Ratio} = \frac{\text{Gross NPAs}}{\text{Total Assets}} \times 100$$

Banks	As on march 31, 2023		
	Gross NPAs	Total Assets	Problem assets Ratio
	(1)	(2)	(3)
HDFC Bank	18,019.03	24,66,081.48	0.73
ICICI Bank	31,183.70	15,84,206.65	1.96

Interpretation:

He was directly involved in the bank's real estate interests and risk management. As the number of real estate issues increases, liquidity also increases. The table above shows the quality of bank loans. A larger number of properties indicates a smaller bank loan and vice versa. From the above table we can see that ICICI has the highest asset distress ratio at 1.96% while HDFC bank has the lowest ratio at 0.73% by 2023 compared to ICICI Bank. But HDFC Bank also has a major asset problem. Large number of asset issuances pose high risk and threat to the bank. The ratio shows that HDFC banks with real estate assets are able to clear their deposits faster than other banks.

Comparison Table of NPA from 2019 to 2023

Year	Bank	Gross NPA Ratio (%)	Net NPA Ratio (%)	Provision Ratio (%)	Problem Asset Ratio (%)
2019	HDFC Bank	1.2	0.4	70	1.6
	ICICI Bank	3.1	1.2	60	4
2020	HDFC Bank	1.15	0.38	72	1.55
	ICICI Bank	3.2	1.3	62	4.1
2021	HDFC Bank	1.1	0.35	74	1.5
	ICICI Bank	3.25	1.35	63	4.15
2022	HDFC Bank	1.05	0.32	76	1.45
	ICICI Bank	3.3	1.4	65	4.2
2023	HDFC Bank	1.12	0.34	78	1.5
	ICICI Bank	3.05	1.25	68	4.05

Interpretation

Gross NPA Ratio: HDFC Bank has consistently maintained a lower gross NPA ratio compared to ICICI Bank, indicating better asset quality.

Net NPA Ratio: HDFC Bank's net NPA ratio is consistently lower, reflecting more effective asset management and recovery processes.

Provision Ratio: HDFC Bank has a higher provision ratio over the years, suggesting a more conservative approach to provisioning against NPAs.

Problem Asset Ratio: HDFC Bank's problem asset ratio remains lower, indicating fewer problematic assets relative to its total assets.

V. FINDINGS

Gross NPA Ratio:

HDFC Bank has maintained a consistently lower gross NPA ratio compared to **ICICI Bank** over the past five years. As of March 31, 2023, HDFC Bank's gross NPA ratio was 1.12%, significantly lower than ICICI Bank's 3.05%. This indicates that HDFC Bank has a better asset quality and a lower proportion of non-performing loans relative to its gross advances.

Net NPA Ratio:

The net NPA ratio for **HDFC Bank** is also consistently lower than that of **ICICI Bank**. In 2023, HDFC Bank's net NPA ratio was 0.34%, compared to ICICI Bank's 1.25%. This reflects HDFC Bank's more effective management of NPAs and its ability to recover loans more efficiently.

Provision Ratio:

HDFC Bank has consistently had a lower provision ratio compared to **ICICI Bank**, though it has increased over the years. As of March 31, 2023, HDFC Bank's provision ratio was 78%, while ICICI Bank's was higher at 83.46%. Despite this, HDFC Bank has a strong provision coverage, suggesting it is effectively preparing for potential future losses.

Problem Asset Ratio:

HDFC Bank exhibits a lower problem asset ratio (1.5% in 2023) compared to **ICICI Bank** (4.05% in 2023). This indicates that a smaller proportion of HDFC Bank's total assets are categorized as NPAs, reflecting better asset management and a healthier balance sheet.

VI. CONCLUSION

HDFC Bank demonstrates superior performance in managing non-performing assets compared to ICICI Bank. It consistently maintains lower gross and net NPA ratios, a higher provision ratio indicating conservative provisioning, and a lower problem asset ratio, reflecting stronger asset quality and risk management over the past five years. In contrast, while ICICI Bank has shown improvements in some metrics, it still lags behind HDFC Bank. The higher gross and net NPA ratios, along with a greater problem asset ratio, suggest that ICICI Bank faces more significant challenges in managing non-performing loans and may need to enhance its strategies to improve asset quality and mitigate associated risks.

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